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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,532

05/16/2006

Kam Wah Wilson Ip

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03/21/2008

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EXAMINER

LAIOS, MARIA J

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

03/21/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,532	<b>Applicant(s)</b> IP, KAM WAH WILSON	
	<b>Examiner</b> MARIA J. LAIOS	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: The terms anode and cathode have been interchanged throughout the specification and claims. Page 1, paragraph 3 describes the cathode material as mercury free zinc powders or zinc alloys and the anode material as manganese dioxide. It should state that the anode material are composed of zinc and the cathode materials are composed of manganese dioxide in a magnesium dioxide/zinc battery as stated by Linden et al. in the Handbook of Batteries (Pages 10.5-10.8).

Appropriate correction is required.

### ***Claim Objections***

3. Claims 1, 2, 4 and 5 are objected to because of the following informalities: The terms anode and cathode have been interchanged. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 cites “open-end portion of said anode and an upper end portion of the outer wall of the gasket are bent to the cathode cap” (lines 5-6). It is unclear how the anode is bent to the cathode cap. For purposes of compact prosecution, the Examiner will interpret this as the open end portion of the anode shell and an upper end portion of the outer wall of the gasket are bent to the cathode cap.

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***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (US 4,521,500).

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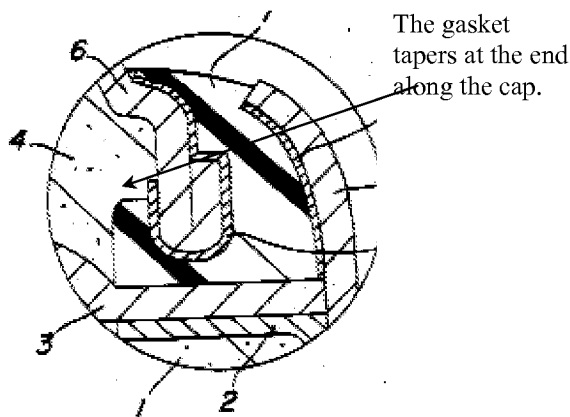
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With respect to claim 1, Watanabe discloses a button alkaline battery cell comprising an cathode shell (5) containing an cathode mixture (1), said cathode shell (5) being interlocked with a anode cap (6) containing a anode mixture (4), the anode cap having outward flange, a separator (3) between the anode mixture and the cathode mixture, a gasket (7) fastened on the outward flange, wherein said gasket has a bottom and an outer wall and is placed on the separator (3), wherein an open-end portion of said cathode shell and an upper end portion of the outer wall of the gasket are bent to the anode cap (see figure 1), the upper end portion of the outer wall of the gasket is pressed against the outer surface of the anode cap; and wherein a sealant layer (8) is filled in an interspace formed between the flange of the anode cap and the gasket (see figure 2).

With respect to claim 2, Watanabe discloses the button alkaline battery cell wherein the gasket further comprises an inner wall, the bottom, the inner wall and the outer wall of the gasket form a groove, the flange of the anode cap is located in the groove of the gasket, and a sealant layer is filled in the interspace between the flange of the anode cap and the bottom, the inner wall, the outer wall of the gasket (see figure 2).

With respect to claim 3, Watanabe discloses the button alkaline battery cell the thickness of the inner wall of the gasket decreases along its upward direction (see figure 2 below).



With respect to claim 5, Watanabe discloses the button alkaline battery cell according the flange of the anode cap is U-shaped (see figures 1 and 2).

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (US 4,521,500) in view of Ishihara (JP 08-315792).

With respect to claim 6, Watanabe discloses the button alkaline battery cell as discussed above and incorporated here in. Watanabe discloses the sealant as asphalt and a homopolymer or copolymer of vinyl acetate, or polyperpene (col. 2 lines 44-46) but fails to disclose the sealant as epoxy resin. Ishihara discloses a button type alkaline battery and teaches sealing compounds of

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polyamide resin, asphalt, chlorosulphonated polyethylene or epoxy resins (Paragraph 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the sealant compound of asphalt and a homopolymer or copolymer of vinyl acetate, or polyperpene of Watanabe with epoxy because both are known to be effective sealants in alkaline button batteries and the reference teaches that they are art recognized equivalents for the same purpose. See MPEP 2144.06

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (US 4,521,500) in view of Urairi et al (WO 2001/75994, US 6,811,927 is used as an English equivalent).

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With respect to claim 4, Watanabe discloses the button cell with a sealant and gasket but fails to disclose a separation layer attached to the inner wall of the anode cap, the shape of the separation layer corresponding with the shape of the interior of the anode cap. Urairi et al. discloses a button battery with a polycarbodiimide film disposed in the inner position of the battery (col. 3 line 13-14 and col. 2 lines 38-39) in order to inhibit self discharging. This film is located on the inner surface of the battery case which would form a groove with the bottom and the outer wall of the gasket; and the flange of the cap would then be located in the groove formed by the gasket and film.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the film of Urairi et al in the battery of Watanabe to prevent self discharging in the cell.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA J. LAIOS whose telephone number is (571)272-9808.

The examiner can normally be reached on Monday - Thursday 10 am -7 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJL

/Susy N Tsang-Foster/  
Supervisory Patent Examiner, Art Unit 1795